इंडियन इंस्टीट्यूट ऑफ टेक्नोलॉजी दिल्ली
हौज खास नई दिल्ली -110016
(औद्योगिक अनुसंधान एवं विकास इकाई)

INDIAN INSTITUTE OF TECHNOLOGY DELHI
Hauz Khas, New Delhi-110016
(Industrial Research & Development Unit)

No. IITD/IRD/RP03981G/ 362573 **Dated: 11/10/2021**

Advertisement No.: IITD/IRD/175/2021

Applications from Indian nationals are invited for Project Appointment under the following project. Appointment shall be on contractual basis with consolidated pay, renewable yearly or upto the duration of the project, whichever is earlier. निम्नलिखित परियोजना के तहत भारतीय नागरिकों से आवेदन आमंत्रित किए जाते हैं। अपॉइंटमेंट, अनुबंधित आधार पर समेकित वेतन, नवीकरणीय वार्षिक या परियोजना की अवधि तक, जो भी पहले हो, के साथ होगा.

Brief description: The project aspires to carry out material characterization of different layers of brain tissue, starting from the outermost layer of skin, stiff layer of skull to the innermost very soft Gray and White matter. The purpose of tissue characterization is to create a database of material properties of Human and sheep brain tissue to use in developing a virtual surgical simulation platform for surgical training, and surgical planning purpose. We plan to develop an universal constitutive model with varying parameters for different layers of the brain tissue. The position will require the candidate to learn and use various experimental tools like, low load fatigue testing machine, Nanoindenter, AFM, CT-Scanner, Optical microscope and Triaxial tester for biological tissue.

Why you would like to join:

1.This is a one of its kind of its kind project first time in the country. You will have an opportunity to interact with an interdisciplinary team of scientists having background as diverse as in Experimental biomechanics, soft robotics, scientific computation, medical doctors, radiologists and physicists.
2.Two of the premier institutes in India, IIT Delhi and AIIMS Delhi are involved in this project.
3.This is cutting edge project where material characterization of human brain tissue, AI/ML based modelling, image processing and material physics get combined.
4.This is one of the highest funded projects in DHR's history.

Title of the Project	Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tool (RP03981G) **Experimental Solid Mechanics and Soft Material characterization for brain and Cardiovascular Tissue Biomechanics.**	
Funding Agency	Department of Health Research, Ministry of Health & Family Welfare, Indian Council for Medical Research (ICMR)	
Name of the Project Investigator(s)	Prof. Sitikantha Roy (IITD) & Dr. Ashish Suri (AIIMS, New Delhi) **[email of PI**:brainmech6@gmail.com]	
Deptt/.Centre	School of Artificial Intelligence, IIT Delhi and Department of Applied Mechanics, IIT Delhi	
Duration of the Project	Upto:30/09/2023	
Post (s)	Consolidated fellowship / Pay-slab	Qualifications
Research Associate-III (1)	Rs.54,000/-p.m. plus HRA @ 24%	Ph.D. or equivalent degree in the area of Mechanical/Engineering Mechanics/Biomedical Engineering/Aerospace/Civil with first class (60%) or equivalent at all the preceding degrees and certificates along with good publication record in Science Citation Indexed (SCI) Journal. **OR** ME/MS/MTech. in Mechanical/Biomedical/ Aerospace/Applied Mechanics/ Instrumentation Engineering with first class (60%) or equivalent at all the preceding degrees and certificates, and having three years of research, teaching and soft tissue mechanical characterization experience along with at least one good publication in Science Citation Indexed (SCI) Journal. **Essential (Skill):** Person having a strong background in experimental Solid Mechanics, Soft tissue/material characterization, Mechanical testing: Dynamic mechanical analysis (fatigue) and hands-on experience on Nanoindenter, and UTM and Knowledge of MATLAB or any other quantitative data analysis and statistical analysis tool. **Desirable skills:** Candidate with prior knowledge of atomic force microscopy, computational mechanics. **Responsibilities:** Mechanical characterization of biological tissue and soft polymeric materials, biological sample preparation, experimental design, experimental data analysis, and constitutive modelling.

The candidates who are interested to apply for the above post should download Form No. IRD/REC-4 from the IRD Website (http://ird.iitd.ac.in/rec) of IIT Delhi and submit the duly filled form with complete information regarding educational qualifications indicating percentage of marks/division, details of work experience etc. by e-mail with advertisement No. on the subject line to Prof. Sitikantha Roy at email id: brainmech6@gmail.com and cc it to sroy@am.iitd.ac.in.

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IIT Delhi reserves the right to fix higher criteria for short-listing of eligible candidates from those satisfying advertised qualification and requirement of the project post and their name will be displayed on web link (**http://ird.iitd.ac.in/shortlisted**) **alongwith the online interview details. Only short-listed candidates will be informed for online interview.** In case any clarification is required on eligibility regarding the above post, the candidate may contact **Prof. Sitikantha Roy at email id: sroy@am.iitd.ac.in**

5% relaxation of marks may be granted to the SC/ST Candidates. In case of selection of a retired/superannuated government employee, his/her salary will be fixed as per prevailing IRD norms. अनुसूचित जाति / अनुसूचित जनजाति के उम्मीदवारों को अंकों की 5% छूट दी जा सकती है **The last date for submitting the completed applications by e-mail is 31/10/2021 by 11.59 p.m.**

सहायक कुलसचिव, आईआरडी

वितरण

- Head of the Deptt./Centres/Units : It is requested that the contents of the Above Advt. be brought to the notice of the staff working in your Deptt./Centre/Unit
- Webmaster, IRD : To put advertisement at IITD website.
- Notice Boards
- Advertisement file
- Prof. Sitikantha Roy, PI, School of Artificial Intelligence, IIT Delhi and Department of Applied Mechanics
- Copy to Chairperson, DRC/CRC
- Dr. Harshita Bhatnagar, RD Coordinator, (R&D) Wing